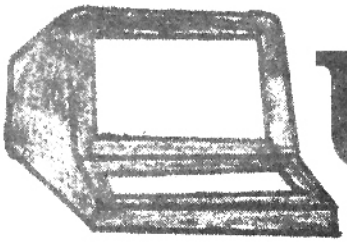


USERS' NEWS

May, 1981 VOL. 2, NO. 4

COMPUTER SHOW HELD

The SOUTHWEST COMPUTER SHOW was held at the Dallas Market Hall April 9-12 with over 150 companies showing mini and micro computers, software, printers, plotters, hardware, etc.

80-Computer Users of Houston member, Mike Hunt reports that the big names in micro computers were displayed at the show, including Apples, Ataris, and TRS-80s.

According to Hunt, several booths were set up for selling software, however few were actually demonstrating the programs. Those that did demonstrate programs limited the demonstrations to programs the company selected and did not demonstrate any programs that someone was thinking of purchasing.

Hunt noted that it appeared that those purchasing software knew about the software, after apparently seeing the program played somewhere else.

Several booths seemed to attract more attendees than others. Hunt reported that those attending the Show were able to operate the computers at the Radio Shack booth.

Hunt added that several members of the Dallas TRS-80 users group manned a booth to explain the purpose of a users group and give advice to those requesting it.

One of the biggest crowds around a single booth was at the Adventure International booth. Many of those attending have become "hooked" on the Adventure games and stopped by the Adventure International booth to meet the author, Scott Adams.

Hunt noted that the young and old alike enjoyed meeting the several computerized robots that roamed throughout the Show. Children attending especially enjoyed talking with the robots and watching them follow people.

Hunt saw a particular interesting piece of software at the show, which is reviewed on Page 6 of this issue of USERS' NEWS.

****

TRS-80 is a trademark of Tandy Corp.

NEXT MEETING

Date: MAY 6, 1981
Time: 7:30 p.m.
Location: SCHOOL OF PUBLIC HEALTH, UNIVERISTY OF TEXAS
Program: Formatting Screen Input by JOE STANFIELD
Level III Basic-using disk commands on cassette by MERRICK JOHNSON
Arcade Games News Special by BRIGITTE & JOHN SCHAEFER

Page 2: Editor's Comment
Solution to Richard Flores' cipher
Page 3: Visitors Welcome
Hint
TRS-80 Pen Pal wanted
Classified Ads
Election Reminder
Page 4: "PLEX" program
Page 5: Define Your Print @'s
Page 6: Defining Print @'s cont.
Program Review
Page 7: TRACKDMP/CMD
Page 8: Screen Input Routine
Page 9: The Program Doctor
Magazine Article Reviews
Page 10: Program Review

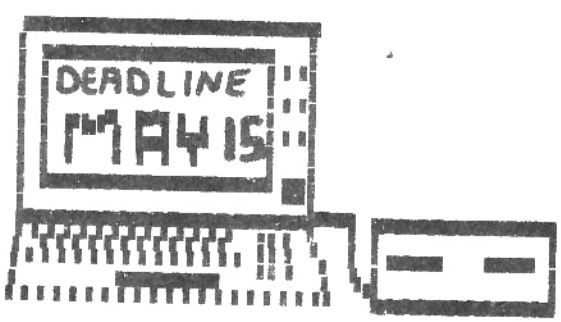
==========

EDITOR'S COMMENT.....

It appears that everywhere you turn you see something or hear something about software piracy- the "stealing of software" to avoid the purchase of same. To date, the definition of "stealing software" in our group has meant the exchange--or "swapping" of programs.....the making of several program tapes or disks from one which has been purchased "legally"; however, at the last meeting of 80-Computer Users of Houston, "s t e a l i n g of software" took on a new meaning. Someone attending the April meeting stole a program tape belonging to a member of our group. This was a program tape which was being used on the TRS-80 brought to the meeting by Robert Eden. Many of our members look forward to seeing a new or different program demonstrated after the meeting. It has been difficult at times to get someone to bring their system to the meeting for a demonstration....however in the end, someone always volunteers. Will it now be more difficult to get a member to bring his computer, etc.? Would it run through the volunteer's mind that "If I bring my system, w i l l something of mine be stolen?" I think not. It is my understanding that something like this has not happened before; therefore, I feel this is a singular instance. Maybe it was out of pite---or jealousy. Maybe someone wanted a copy of t h a t particular program and did not want to buy it or ask Robert to use it. Whatever the reason, it is no excuse for taking something that b e l o n g s to someone else. Whether the program was an original or a copy does not matter. What matters is that the cassette did not belong to whomever stole it. It would be nice to know the members of 80-Computer Users of Houston can trust each other again. So, whomever STOLE the program cassette from the demonstration area at the last meeting, please return it. You can do so anonymously by sending it to USERS' NEWS, P.O. Box 20000 # 2 2 0 Houston, Texas, 77025.

****

President, Bill Young, did not submit a column for A NOTE FROM THE PRESIDENT.



80-COMPUTER USERS OF HOUSTON meets the first Wednesday of each month. Anyone interested in microcomputers is welcome to join our group. Membership dues are $5.00 per calendar year, which includes your subscription to **USERS' NEWS.**

USERS' NEWS

EDITOR: **Brigitte Schaefer**
PRODUCTION: **John Schaefer**
THE PROGRAM DOCTOR: **E. Wood**
A NOTE FROM THE PRESIDENT: **Bill Young**
TAPE LIBRARY: **Floyd Atkinson**
MICRONET NEWS: **Ben Taylor**

★ ★ ★ ★ ★

USERS' NEWS is published monthly by **80-COMPUTER USERS OF HOUSTON.** Mail contributions, letters to the Editor, comments, etc. to:

P. O. Box 20000, No. 220
Houston, Texas 77025
or phone (713) 663-7293.

★ ★ ★ ★ ★

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SOLUTION TO CIPHER. BY RICHARD FLORES presented at last meeting: "IF YOU HAD TROUBLE...."

VISITORS WELCOME...

Non-member visitors are welcome at meetings of 80-Computer Users of Houston. All we ask is that if you have enjoyed the meetings, consider joining our group. Membership dues at this time are prorated to $ 4.00 for the remainder of the year. (The dues are regularly $ 5.00 for Jan.-Dec. memberships.)

Your dues help pay for your subscription to USERS' NEWS. The club needs everyone's support, so beomce a member. $ 4.00 is a small fee to pay for the help and knowledge you receive through the club. Even the tightest budget can fit in $ 4.00.

HINT....

Here is a simple way to get the down, left and right arrows to show up on your video screen when inputting a program to be put onto cassette or disk. The three arrows cannot be simply typed from the keyboard.

When inputting a line, begin typing the line. When you get to the place where the arrows go, do the following: With your left hand, simultaneously depress the "I" and "Y" keys. Then, with your right hand, type "K" "L" "M" and "N" and you will get the arrows inbetween the letters. Enter the line and then delete the unwanted letters by using EDIT. This will leave the arrows and you can finish typing the line.

Using this method, you use only one byte for the down arrow instead of the five-byte "CHR$(92)", etc....

WANTED: TRS-80 PEN PAL

Interested in a TRS-80 pen pal? J. Lehner of Venezuela would like to get in touch with someone who has interests that are similar to his. He has a TRS-80 Level II, 32k, with one Radio Shack Drive and one Pertec TFD-200 77 track drive. He also has a quick printer and R.S. Line Printer II. He uses his equipment as a hobby. He likes experimenting with different programming languages and operating systems.

Mr. Lehner would like to hear from anyone running CP/M, APL, COBOL, CBASIC 2, E-BASIC, FORTRAN or PASCAL on a TRS-80 Level II with a mixed disk drive system like his. He would also like to hear from anyone who uses the omikron Mapper I and Mapper II and anyone using the Freedom Board T8/OS.

If interested, write:

J. LEHNER c/-S.P.A.
APT. 191 EL TIGRE
EDO. ANZOATEGUI
VENEZUELA

CLASSIFIED ADS....

FOR SALE---Two 64k R.S. Model II's, hard disk, NEC Spinwriter & Centronics 702....CPM, Oasis, and lots of programs in TRSDOS....Call Joe Stanfield..466-3535 (days)

* * *

WANTED-----Hardware Reviews, Hardware Shortcuts, Software Reviews, Programming Tips, Magazine Article Reviews, Book Reviews, Business Program Reviews, etc... Remember, no submission is too elementary---our members are at all levels of computing..send submissions to USERS' NEWS, P. O. Box 20000, #220, Houston, Texas, 77025. Questions about submissions should be directed to the Editor-663-7293 after 7 p.m.

* * *

WANTED----artist interested in computers to draw dingbats (fillers) and cartoons for USERS' NEWS. Nothing elaborate required....just simple line drawings..call the Editor at 663-7293 after 7 p.m.

* * *

REMINDER....

Election (or reelection) of officers for the next term of office (June-December) will be held at the June meeting. Remember, only paid-up members of 80-Computer Users of Houston can vote in the upcoming election. Pay your dues now to have a voice in who our officers will be.

```
20 '*****************************************************
40 '*   THIS PROGRAM WILL CONVERT MULTILINES TO SINGLE   *
60 '*   IT DOES A LINE     AT A RUN   IT REMOVES        *
80 '*   THE BASIC PROGRAM MUST BE ON DISK IN ASCII       *
100 '*  THE NEW PROGRAM IS NAMED NEW                     *
120 '*     AUTHOR ---------- KEITH WEILBACHER            *
140 '*****************************************************
160 CLEAR10000:FILL$="      ":CLS:DIM L1$(1000):L=0:G=1:V=1
180 X$="NEW.1"
200 INPUT "WHAT IS ASCII INPUT PGM NAME";PGM$
220 GOSUB 630
240 OPEN"I",1,PGM$
260 OPEN"O",2,X$
280 S=1
300 IF EE=1 THEN420  ELSELINE INPUT#1,TP$:L=0:G=1:T=1:S=0
320 IF EOF(1) THEN EE=1
340 N=LEN(TP$):V=VAL(TP$)
360 FOR X=G TO N :T=T+1: IF MID$(TP$,X,1)=":"THEN GOSUB580  :L1$(L)=MID$(TP$,X,T):PRINT "WRITE IT TO PRINTER & DISK ":S=S+1:GOSUB500  :
G=T:T=0:GOSUB560  :L=L+1:NEXTX ELSE NEXTX
380 IF L=0 THENLPRINT" ";TP$: PRINT#2," ";TP$:GOTO300  ELSE GOTO300
400 PRINT#2,TP$
420 LPRINT :LPRINT:LPRINT"DONE"
440 LPRINT CHR$(12)
460 CLOSE
480 END
500 '============ SUBROUTINES ============
520 IF S>1 THEN RETURN
540 FOR J=1 TO255:IFMID$(TP$,J,1)=":"THENS=2:LPRINT" ";LEFT$(TP$,J-1):PRINT#2," ";LEFT$(TP$,J-1):RETURN ELSE NEXTJ
560 LS=LEN(L1$(L)):PP$=RIGHT$(L1$(L),LS-1):LPRINT V+1;PP$:V=V+1:PRINT#2,V;PP$
580 FOR Z=1  TO 255
600 IF X+Z>255 THEN GOSUB660  :RETURN
620 IF MID$(TP$,X+Z,1)=":"THEN T=Z:RETURN ELSE NEXTZ
640 T=Z:RETURN
660 T=255-X:RETURN
680 LPRINT" PROGRAM NAME IS ";PGM$:RETURN
```

Keith Weilbacher submits "PLEX", which converts multiline programs to single lines. It may be useful when compiling a basic program.

1. Save program to be converted on disk in ASCII
   a. save "X", A

2. Any drive assignments having : will have to be worked on as program is searching for : to process

   a. open "R", "TEST:1"

3. Renumber program prior to processing with basic R. The "PLEX" program adds 1 to previous line number. You may overrun sequence.

   a.
```
10 CLS          10 CLS
19 PRINT,PRINT  19 PRINT
20 A=1          20 PRINT
                20 A=1
```

Keith notes that this is an experiment in global search.

DEFINE YOUR PRINT-@'s

by B.C. TAYLOR

...At our April 1st meeting, Joe Stanfield gave a talk on simple DEF FN's, and Royce Bordman put a DEF FN statement on the black board that was 12 feet long! By coincidence, I had been foolin' with DEF FN's for PRINT-@ statements on MicroNet 80-Users board for the prior week. It came about like this...Rick Taylor (mighty fine last name, there) put a program in his MicroNet "file space" for anyone to download and use to check MicroNet's charges. It found a $ 5.00 error for him. So I down-loaded it and found that part of the display looked like this:

```
TOTAL       TYMNET      TIME CREDIT
 15.2                      .93
```

I was facinated by this, because it had not occurred to me to open my buffer, catch the Micro Net "Detail" charges, save them to disk, then test them for accuracy.--Of course I had to improv the program (who can resist doing that?), and before too long the display looked like this:

```
                    CHECK on CompuServe/MicroNet CHARGES
=============================================================================
READING=>    08-MAR-81 22:38/23:46   68   5.67
=============================================================================
  ---MNET---          ------TIME------          -----CHARGE-------
  ON     OFF          CALC  MNET  DIFF          CALC  MNET  DIFF
22:38   23:46         1:8    68    0            5.67  5.67  0

Cumulative: ---------------------------------------------------------
CALC:  TIME= 1:13       CHARGE= 6.09          CR=-.93   NET= 5.16
MNET:  TIME= 73         CHARGE= 6.09          CR=-.93   NET= 5.16
 "   :  ITEM=           CHARGE=
TYMNET:ITEM=           CUM.  =
=============================================================================
MNET+TYMNET: CUM. NET CHARGE=  5.16                        DIFF= 0
```

That display is, of course, a "video mask" -- the words stay put but the numbers go flickety-flick all around the video as the program reads the schedule of charges, and calculates what the ought to be. In the original version, Skip had placed the words in the mask by using PRINT-@ statements like this:

```
100  PRINT @ 192, "TOTAL";
110  PRINT @ 202, "TYMNET";
120  PRINT @ 212, "TIME CREDIT";
and to position the numbers on the video,
320  PRINT @ 276, T2;
etc.
```

(I won't go into extracting the numbers from the disk file of schedule of charges...that's far from the point of this story. But you can see one line of such a file after the "READING=>" in the video mask above, and all the numbers on display are derived from this.) Now, I have trouble enough selecting the right Print-@ number for the start of any line, without arriving at a Print @ number to put the word or number out in the middle of the display, so I used Print-@ statement of this nature:

```
1780  PRINT @ 384+32, VAL(MID$(A$,7+7,3))-(EH*60+EM);
1790  PRINT @ 384+43,C;
```

Then I up-loaded the enlarged program into my MicroNet filespace, -- the first few remark lines still giving Skip his original by-line, and now also giving credit to me -- and notified Skip by Email to look at it and maybe approve? (I've never seen Skip, don't know where he lives and works After receiving his amiable go-ahead, I put a message on the MNNET80 board (--that's for TRS-80 users on MicroNet) that MNCHG.BAS<70070,234>was available.

Two days later there was this agonized message on the MNET-80 Board from a Model-II owner, to the effect that he was having pure hell adapting it to Model-II, and why didn't we use variables for Print-@ locations, because he had no idea what the Model-I video mask was supposed to look like. I'm afraid I was not too sympathetic. Imagine anyone not knowing what a Model-I is all about! I composed a message using Electric Pencil and uploaded it onto the MNET-80 board tellin him that translating was easy--my Print-@'s were of the form "PRINT @ XXX + YY", where the XXX was the start of the line, and the YY as the number of spaces out on it. And it was easy to transform the XXX from a 64-characters-per-line display to an 80-character-line. But Skip was more ingenious and tender-hearted. By the next day, he had completely re-worked this 9600-byte program replacing all PRINT-@'s (and believe me, that program is full of PRINT-@'s!) with this device:

```
65 ' To change for a wider/narrower screen all you have to
66 ' do is to change the variable NC in line 70 to reflect
67 ' the number of columns/line you have on your CRT.
68 '
70 ' CLEAR 3000: NC = 64 '      NC = $ chars on video line
75 DEF FNP(R,C) = NC*R+C
76 '               format = Row,Column
...
1780 PRINT @ FNP(7,32), VAL(MID$(A$,T+7,3))-(EH*60+EM)
1790 PRINT @ FNP(7,43), C;
```

Line 1790 is saying, of course, PRINT AT the 7th row down and 43 characters out. I think this is a fine device -- never have to look up or calculate a PRINT-@ location again. And by simply changing the value of "NC" in the statement at line 70, the program will automatically adapt to anybody's video--Model-II, Color Computer, SuperBrain (Hi, Kip Bartran!) or even on (ugh!) Apple. (And by swapping those two numbers around (7,43), it will even run on Royce's OASIS system!) But that was not quite the end of it on MicroNet. While Skip was burning the midnight oil, modifying all those PRINT-@'s, Harry Lennox Lee, who is with SBSG/QSD (Small Business Systems Group/Quality Software...??), put a message on the MNET-80 board with a slightl different form:

```
DEF FNPA(line,col) = 64*(line-1) + col-1
"where line is 1-16, col is 1-64.  For the Mod-I,"
"...then all that must be changed is the DEF..."
```

And in the subsequent message, Harry Lee says: "I stole the idea from Eric Podietz of Digital Mercury 4 years ago. We did it because you had to generate different strings of control codes for different terminals at different installations...great minds think alike...Skip and Eric came up with the ideas independently. Us lowlifes steal what good ideas we can!..."

Two other "universal" devices that will help make our programs run on Model II's or others are:

```
80 CL$ = CHR$(30)   '   clears to end of line
85 CE$ = CHR$(31)   '   clears to end of frame
```

It turns out that on a Model II, CHR$(30) converts to a double-wide display! So skip changed all CHR$( ) statements to variables defined at the start of the program, so that they can easily be changed by users of other systems.

Note: Tape pullers don't have DEF FN--that's a disk basic specialty. The first version of line 1790 shows the easier way to handle PRINT-@'s in Level-II Basic.

PROGRAM REVIEW BY MIKE HUNT

At the SOUTHWEST COMPUTER SHOW in Dallas, Mike Hunt came across a program called "Scriptplus" which is a modification for Scriptsit, which allows one to take advantage of a lot of "word processor" extras. Using Scriptplus can give you the capability to change to expanded characters, change the number of characters per inch, underline, mix print sizes (including in mid-line), depending on the type of printer the user is operating. Mike says Scriptplus is not supposed to crash programs in high memory, that end returns "dosready" instead of rebooting the operating system and alphabetically lists the list directory within Scriptplus and works with VTOS, LDOS, TRSDOS, DOUBLE DOS, NU-DOS, however NUDOS-80 is not supported. Scriptplus is compatible with double zap patches. Mike feels that for the price, Scriptplus is a very good program considering all the extras it contains.

Scriptplus is available from QUALITY SOFTWARE DISTRIBUTORS, 11500 Stemmon Express., Suite 104, Dallas, Texas, 75229 (214-484-2976). The program sells for $ 19.95.

TRACKDMP/CMD

By Elmer Bailey

As you probably know the data on a diskette is only a part of the information that it contains. There are gaps, address marks, sector length bytes, CRC's, etc. between the data blocks. During a normal read, the information between data blocks is used by the disk controller, but not passed on to the processor. The TRACKDMP/CMD program displays everything that a selected track contains.

TRACKDMP/CMD first asks if the output is to go to the printer or video. After a selection is made, it asks for a track number in decimal. When you give it a track number, it seeks track zero so that it will not have to depend on track numbers written on the diskette. Then it steps to the selected one by counting. Then it begins reading on the first index mark that it encounters and continues until the next index mark. All of this is put into a buffer and then read out to either screen or printer in hexidecimal. Each output line starts with a two character sector number followed by a three character relative byte number. Next is a space followed by 16 bytes in two byte groups and then the ASCII equivalant to the same 16 bytes. In the ASCII section none printing characters are printed as periods.

The usual format for a sector is:

```
Gap #1 ............. (several bytes of FF and/or 00)
ID Address Mark .... FE
Track number ....... XX (Same that you selected)
Separator .......... 00
Sector Number ...... XX (0 through 9)
Sector Length ...... 01 (00=128, 01=256 bytes)
CRC ................ (2 bytes)
Gap #2 ............. (several bytes of FF and/or 00)
Data Address Mark .. FB
Data ............... (256 Bytes on RS)
Data  CRC .......... (2 bytes)
Gap #3 ............. (several bytes of FFand/or 00)
```

If you are looking at it on the screen, the display will stop when the screen is full. Press enter to go to the next 256 bytes. When the buffer is empty, the program will return for another selection.

Take a look at a few of your disketts and then take a look at Microsofts's Adventure diskette. You should be able to see why DOS or Superzap will not read it. If you have access to a hard sectored diskette, try TRACKDMP/CMD on one. Can you figure out why it only reads random sectors on a hard sectored track?

If you don't have TRACKDMP/CMD, you can get it from the club disk library.

```
1 '                          SCREEN INPUT ROUTINE

                               **** SIR ****

                          WRITTEN BY JOE STANFIELD

50 CLEAR1000
70 '     SET UP A SCREEN MASK IN THIS AREA FOR ANY INFORMATION THAT YOU
       WANT DISPLAYED ON THE SCREEN.
75 CLS:PRINTTAB(10)"S C R E E N   I N P U T   R O U T I N E":PRINT@140,"NAME: "
 PRINT@194,"STREET ADDRESS: ";:PRINT@268,"CITY: ";:PRINT@331,"STATE: ",

90                BEGIN ENTRY OF DATA
100 ZZ=146'               SET SCREEN LOCATION TO BEGIN GRAPHICS BLOCK
101 Y=18'                  SET THE MAXIMUM LENGTH OF THE GRAPHICS BLOCK
102 YY$=NA$'               STORE DATA IN YY$ FOR EDITING LATER
103 GOSUB5000'             GO TO THE INPUT SUBROUTINE
104 IFI=-1THEN100'        IF UP ARROW - GO UP TO NEXT BLOCK
105 NA$=YY$'               CONVERT BACK TO REQUIRED VARIABLE NAME
106 '    THE REMAINING ENTRY LINES WILL BE COMBINED IN ONE
110 ZZ=210:Y=20:YY$=ADD$:GOSUB5000:IFI=-1THEN100ELSEADD$=YY$
120 ZZ=274:Y=10:YY$=CITY$:GOSUB5000:IFI=-1THEN110ELSECITY$=YY$
130 ZZ=338:Y=10:YY$=STATE$:GOSUB5000:IFI=-1THEN120ELSESTATE$=YY$

900 GOSUB4000:IFCH$="N"THEN100
1000 CLS:GOTO50

4000 '            INFO CORRECT SUBROUTINE
4005 PRINT@916,"ALL CORRECT (Y/N)?"
4010 CH$=INKEY$:IFCH$=""THEN4010
4020 IFCH$="Y"ORCH$="N"THENPRINT@915,CHR$(31);:RETURNELSE4010

5000 '            SUBROUTINE FOR VARIABLE INPUT
5010 PRINT@ZZ+1,STRING$(Y,143);'      PRINT A BLOCK OF GRAPHICS CHARACTERS THE
                                       LENGTH YOU HAVE SET FOR 'Y'.
5020 PRINT@ZZ,"";'          MOVE THE CURSOR BACK TO BEGINNING OF THE FIELD.
5030 X=0:Z$=""'             SET INITIAL VALUES OF THESE 2 TO 0
5040 YY=ZZ'                 SET UP AN ADDITIONAL POSITION COUNTER
5045 I=0'                   SET TEST FLAG FOR UP ARROW
5050 W$=INKEY$:IFW$=""THEN5050'       WAIT UNTIL USER PRESSES A KEY THEN
                                       ASSIGN IT TO W$
5060 X=X+1'                  INCREMENT THE # OF CHAR  COUNTER
5070 W=ASC(W$)'              FIND ASCII VALUE OF THE KEY YOU PRESSED
5072 IFW=10THEN5190'        MAKE DOWN ARROW ACT THE SAME AS (ENTER)
5074 IFW<>91THEN5080'        TEST FOR UP ARROW - IF NOT PROCEED
5075 I=-1'                   SET UP ARROW FLAG
5076 PRINT@YY,STRING$(Y,32),'    BLANK OUT LAST GRAPHICS BLOCK
5077 Z$=""'                  ERASE Z$
5078 GOTO5190'               GO TO END ROUTINE TO RETURN
5080 IFW=24THENZZ=YY:GOTO5000'     TEST FOR SHIFT-BACK ARROW ANDSET POSITION
                                    COUNTER BACK TO THE ORIGINAL POSITION AND
                                    RETURN TO BEGINNING OF ENTRY.
5085 IFW<>8THEN5140 '        TEST FOR BACK ARROW  IF NOT PROCEED
5090 IFZZ(=YYTHEN5140'       TEST TO MAKE SURE YOU DONT BACK UP OVER THE LEFT EDGE
                             OF THE GRAPHICS BLOCK.
5095 X=X-2'                  SUBTRACT 2 FROM # OF CHAR COUNTER   1 FOR THE CHAR
                             YOU WANT TO REPLACE AND 1 FOR THE BACK ARROW.
5100 PRINT@ZZ,CHR$(143);'          PRINT A WHITE BLOCK OVER THE LAST CHARACTER.
5110 ZZ=ZZ-1'                MOVE THE CURSOR POSITION BACK ONE MORE
5120 Z$=LEFT$(Z$,LEN(Z$)-1)'      STRIP THE LAST CHARACTER OFF OF THE STRING.
5130 GOTO5050 '              GO BACK TO ENTER ANOTHER CHARACTER
5140 IFW=13THENGOTO5190 '     BREAK OUT OF ENTRY ROUTINE IF KEY IS AN (ENTER).
5145 IFX>YTHENX=X-1:GOTO5050'     TEST FOR RIGHT LIMIT OF BLOCK.  IF EXCEEDED
                                  SUBTRACT 1 FROM # OF CHAR COUNTER AND GO TO
                                  CHARACTER ENTRY.
5150 ZZ=ZZ+1'                OTHERWISE ADD 1 TO POSITION COUNTER
5160 PRINT@ZZ,W$;'           PRINT THE CHARACTER YOU JUST ENTERED
5170 Z$=Z$+W$'               ADD THIS CHARACTER TO THE STRING OF CHARACTERS.
5180 GOTO5050'               GO BACK TO ENTRY FOR ANOTHER CHARACTER
5190 '   END ROUTINE
5200 PRINT@ZZ+1,STRING$(Y-X+1,32),'       BLANK OUT REMAINING GRAPHICS CHAR.
5210 IFZ$()""THENYY$=Z$:GOTO5240'          TEST FOR A NULL STRING AS WOULD OCCUR
                                           IF ENTER WAS PRESSED DURING THE
                                           REVIEW PHOCESS.  IF NOT NULL THEN
5211 '                                     ASSIGN YY$=Z$ AND RETURN.
5220 PRINT@ZZ+1,YY$;'                PRINT THE OLD VALUE OF THE STRING AT THE
                                     LOCATION ZZ SO THAT THE SCREEN WILL REFLECT
                                     THE SAME INFO AFTER EDITING.
5230 Z$=YY$'                 TRANSPOSE VARIABLES SO THAT ALL WILL NOT BE NULL
                             AFTER RETURN.
5240 RETURN
```

PROGRAM REVIEW BY ROBERT EDEN

It has been a long day...now, being a former arcade addict, and now a computer hobbist, I must take my medication. Sitting in my plush chair, I reach behind my electronic marvel for the touch of life...An inspiring gleam comes to my eye as the message "MEMORY SIZE?" appears on the screen. A touch of the =ENTER= key and I am READY. I key in SYSTEM for no apparent reason, and then to the unusual prompt, NOVA. The wait seems endless (for I am a tape-spinner), but finally loading is complete and I stride for the "/" and finally the little white key.

My hands go for the control keys. My finger begins to dance on the fire button...

(NOTE: For those of you unfamiliar with the trama of arcade games, Bill Hogue's SUPER NOVA is now running.)

The scene is the blackness of your monitor...and your ship is the little white thing in the very center. Your mission, should you chose to accept it, is to destroy as many asteroids and aliens (no questions asked) before you are killed.

You control your ship with five control keys and two hands. The left hand hovers over the "R" and "T" keys, while the right controls the "O" and "P" keys. The space bar is pressed with either thumb. The "R" key rotates your ship to your left and the "T" key does it to the right. "O" applys thrust and the "P" key fires you phasers. The space bar causes you to disappear from the screen and reappear randomly (you TREKKIES will recognize this as hyperspace or warp drive).

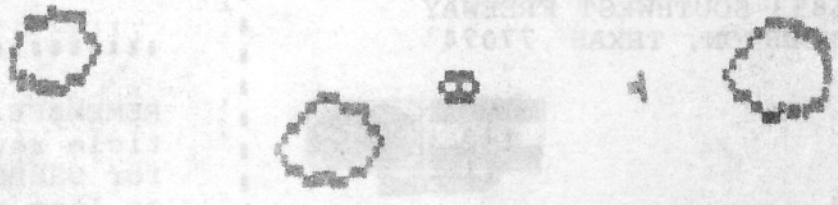
When the game begins, you are centered and the large asteroids are floating around you. Upon hitting the asteroids with your phasers, the large asteroids become medium sized, which in turn become small, all in multiples of two. Aliens are numerous in type and never in short supply. Luckily only one can appear on the screen at one time. Aliens are always worth more than asteroids with a maximum of 2000 points each.

When the game starts, your arsenal holds three ships. An extra ship is awarded at each multiple of 10,000 points. You are destroyed by coming in contact with enemy fire, the enemy itself, or, of course, an asteroid.

That's how the game is played. Now, for my favorite features of this program. First, the program is menu driven with good instructions supplied on the program. Next, you can quit whenever you wish with the =CLEAR= and =BREAK= keys. Third, a one or two player game is allowed. Fourth, the graphics are indescribably. Finally, not only does the program remember the top score, it remembers the top 10! (with initials!)

Now, for the bad points...Uh...oh...sound. The program has no sound. (Is that such a crime?) Well, that must mean the biggest problem is the fact that SUPER NOVA will not fit in 4k.

SUPER NOVA is written in machine language and sold by Big Five SOftware. I hear that joysticks and a joystick version are available.



THE PROGRAM DOCTOR.....

HAVING A PROBLEM WITH YOUR BASIC PROGRAMS? Ask the PROGRAM DOCTOR for help. Send your programs on cassette or printed list for testing. The PROGRAM DOCTOR will also try to help with other system programs and answer programming questions.

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KNOW OF A PROGRAM IN ANOTHER LANGUAGE (LIKE COBOL OR FORTRAN) THAT YOU WANT TO USE ON YOUR TRS-80? ASK THE PROGRAM DOCTOR TO HELP YOU TRANSLATE IT INTO BASIC SO YOUR TRS-80 CAN UNDERSTAND IT. MAIL PROBLEMS TO THE PROGRAM DOCTOR, C/O USERS' NEWS, P.O. BOX 20000 #220, HOUSTON, TEXAS, 77025.

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THE PROGRAM DOCTOR (Emory C. Wood) received a A.A.S. Data Processing from Lee Jr. College and his B.S. in Engineering Technology from Lamar University. He worked in programming for the City of Baytown for 1 1/2 years and was the Systems Programmer for Cravens Dargan & Co. for over 3 1/2 years. He is now working with the computers at Joy Petroleum. He has had experience in various languages: Cobol, Basic, Fortran, RPG, ALC, Compass and Easycoder. He owns a TRS-80 Level II, 16k.

MAGAZINE ARTICLE REVIEWS

Elmer Bailey reports that according to a letter on Page 16 of the March 1981 issue of 80 MICROCOMPUTING, the character generator w/ lower case descenders for the Model I is available for $12.93, including postage. The part can be ordered from:

Radio Shack Customer Service
Dept. 0821
1803 South Beach Street
Fort Worth, Texas 76105

Ask for a "Character Word Processor", Part number AXX-3027, catalog number 26-1104.

Elmer adds that the original IC is soldered in and is not easy to remove. He advises those who don't know how to remove it, to get someone to help. He also noted that if it is removed, a a good socket should be installed before plugging in the new one.

Elmer also reported that in an article in the March 1981 issue of BYTE, it was mentioned that 32k can be installed in the Color Computer by piggy-backing the second 16k. He said it really works!! He watched a friend install 32k in his computer and it took him less than half an hour to do it.

REMEMBER....Magazine article reviews are needed for USERS' NEWS. Short or long reviews will be welcome.